This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (Currently Amended): A method for producing a transparent optical element having a ~~elements, the~~ surface ~~of~~ which has reduced interfacial reflection, at least in certain regions, ~~in which~~ said method comprising:

providing a reference element having a ~~the~~ respective surface made ~~of a reference element which consists~~ of a polymeric material, said respective surface of said reference element corresponding to the desired surface of the optical element to be produced, and ~~corresponds to the respective optical element is exposed~~

exposing said respective surface of said reference element to the influence of high-energy ions in a vacuum ~~and in this way~~ to form an irregular nanostructure with alternately arranged elevations and depressions lying in between ~~is formed~~ on ~~the~~ said respective surface of said reference element;

subsequently [[,]] coating said ~~the~~ respective surface of said reference element ~~is coated~~ with an electrically conducting thin film,

subsequently forming ~~following that~~ a mold with a negative contour which is superposed by the nanostructure ~~is obtained~~ by electrochemical forming, and

using said mold in a molding process to form ~~with such a mold,~~ a nanostructure which reduces ~~reducing the~~ interfacial reflection ~~is formed~~ on at least one surface of a transparent optical element ~~by a molding process~~.

2. (Currently Amended): The method as claimed in claim 1, wherein said ~~characterized in that a~~ reference element has ~~with~~ an optically effective surface contour ~~is used~~.

3. (Currently Amended): The method as claimed in claim 1, wherein said ~~characterized in that the~~ high-energy ions are generated by means of an argon/oxygen plasma.

4. (Currently Amended): The method as claimed in Claim 1, wherein said

reference element is made from ~~characterized in that~~ polymethylmethacrylate, diethylene glycol bis (allylcarbonate) (CR39) or methylmethacrylate-containing polymers ~~are used for the production of the reference element~~.

5. (Currently Amended): The method as claimed in Claim 1, wherein ~~characterized in that~~, by means of said ~~the~~ high-energy ions, the elevations of the nanostructure are formed with heights in the range between 30 nm and 210 nm.

6. (Currently Amended): The method as claimed in Claim 1, wherein ~~characterized in that~~ the average thicknesses of the elevations of the nanostructure are ~~formed~~ in the range between 30 nm and 150 nm.

7. (Currently Amended): The method as claimed in Claim 1, wherein said ~~characterized in that the~~ electrically conducting layer is formed as a thin metal film.

8. (Currently Amended): The method as claimed in claim 7 ~~9~~, wherein said ~~characterized in that the~~ electrically conducting layer is formed from gold.

9. (Currently Amended): The method as claimed in Claim 1, wherein ~~characterized in that~~ the ions impinging on the respective surface have an energy in the range between 100 eV and 160 eV.

10. (Currently Amended): The method as claimed in Claim 1, wherein ~~characterized in that~~ an ion bombardment of the respective surface is carried out over a time period of between 200 s and 600 s.

11. (Currently Amended): The method as claimed in Claim 1, wherein ~~characterized in that~~ an ion bombardment is carried out at a pressure below 10^{-3} mbar.

12. (Currently Amended): The method as claimed in Claim 1, wherein ~~characterized in that~~ the molding of the optical elements takes place by hot embossing or by a

plastics injection-molding technique.

13. (Currently Amended): The method as claimed in Claim 1, wherein ~~characterized in that~~ the molding of the optical elements takes place by extrusion embossing or UV replication.

14. (Currently Amended): The method as claimed in Claim 1, wherein ~~characterized in that~~ the surface of ~~an~~ said optical element is coated with an organic-inorganic hybrid polymer and the nanostructure is formed with a mold on the surface of said ~~this~~ hybrid-polymer layer.

15. (Currently Amended): A mold for producing optical elements produced by a method as claimed in Claim 1, said mold having ~~characterized in that~~ an irregular nanostructure with alternately arranged elevations and depressions lying in between ~~is~~ formed on a surface thereof, and the depressions in each case have different depths within an interval between 30 nm and 210 nm,

wherein the respective depths and/or thicknesses of depressions are distributed uniformly about a mean value within an interval.

16. (Currently Amended): The mold as claimed in claim 15, wherein ~~characterized in that~~ the depressions have an average clear width in the range between 30 nm and 150 nm.

17. (Cancelled):

18. (Currently Amended): The mold as claimed in Claim 15, wherein said mold ~~characterized in that it~~ is formed for the production of Fresnel lenses.

19. (Currently Amended): The mold as claimed in Claim 15, wherein said mold ~~characterized in that it~~ is formed for the production of optical windows, optical lenses, lenticular lenses, beam splitters, optical waveguides or optical prisms.

20. (Currently Amended): The mold as claimed in Claim 15, wherein said mold ~~characterized in that it~~ is formed for the production of optically transparent films.

21. (Currently Amended): The mold as claimed in Claim 15, wherein said mold ~~characterized in that it~~ is formed for the production of coverings for displays or for optical indicating elements.

22. (New): A process according to claim 1, wherein said elevations and depressions are formed in different dimensions over the respective surface whereby the corresponding nanostructure provides a refractive index gradient layer in the surface of the optical element.